

HOUSING UNIT ESTIMATES FOR HAWAII,  
1980-1992

## General findings

Hawaii's housing stock was estimated at 407,606 units as of April 1, 1992, in the annual housing survey conducted by the Department of Business, Economic Development & Tourism. During the preceding 12 months, the inventory grew by 9,281 units, or 2.3 percent. The increase since 1982 was 60,880 units, or 17.6 percent.

Homeownership rates, never very high in Hawaii, rose only modestly during the decade, from 41.4 percent in 1982 to 42.0 percent ten years later. The number of owner occupied units increased 19.3 percent over the decade, compared with 16.3 percent for units occupied by renters or vacant. These homeownership figures are based on persons claiming taxpayers' home exemptions; rates obtained in the decennial censuses are significantly higher.

Although the proportion of units found to be owner occupied has changed but little in recent years, major shifts have occurred in the ownership of the land beneath these homes and apartments. Owner occupied units on land owned in fee simple rose from 30.6 percent of total housing stock in 1982 to 36.0 percent a decade later, reflecting a 38.1 percent growth in the number of such units. Owner occupied units on leased land, in contrast, actually declined 34.2 percent, from 10.8 percent of the inventory in 1982 to 6.0 percent in 1992. This shift in part stems from the conversion of single-family lots under the provisions of the State Land Reform Act of 1967. Since the passage of that legislation, approximately 12,824 leasehold lots have been converted to fee simple. 1/

Private renter occupied and vacant units continued to outnumber all other types, accounting for 51.1 percent of the total housing stock in both 1982 and 1992. Units owned by the Federal government, in contrast, dropped from 5.6 percent of all housing to 4.8 percent. Most of this Federal housing was located on military and naval installations. State and county owned units meanwhile increased by 30.2 percent, from 1.9 percent of total inventory in 1982 to 2.1 percent ten years later.

Most of the housing units in Hawaii were on Oahu, both in 1992 and a decade earlier, but increases on the Neighbor Islands far exceeded those on Oahu. The City and County of Honolulu accounted for 74.0 percent of all units in 1982 and 70.9 percent in 1992. The ten-year increase amounted to 31.9 percent on the Neighbor Islands but only 12.5 percent on Oahu. Among Hawaii's three nonmetropolitan counties, the Big Island recorded the most rapid growth, with 42.6 percent, followed by Maui at 27.2 percent and Kauai at 18.0 percent.

Many private rental units are condominium apartments in rental pools intended for tourist use. Such accommodations made up 5.0 percent of the housing stock in 1991, compared with 4.2 percent ten years earlier.

## Definitions and methodology

The estimates reported here were based on the 1980 and 1990 housing

censuses, annual building and demolition permit data from county building departments, and information supplied by government agencies providing housing, chiefly the armed forces and Hawaii Housing Authority.

The U.S. Bureau of the Census has defined a housing unit as a house, an apartment, a mobile home or boat, a group of rooms or a single room occupied as separate living quarters or, if vacant, intended for occupancy as separate living quarters. Separate living quarters are those in which the occupants live and eat separately from any other persons in the building and which have direct access from outside the building or through a common hall. The occupants may be a single family, one person living alone, two or more families living together, or any other group of related or unrelated persons who share living arrangements. Both occupied and vacant housing units are included in the housing unit inventory, except that recreational vehicles, boats, tents and the like are included only if they are occupied as someone's usual place of residence. 2/

The most ambiguous aspect of this definition is its treatment of condominium apartments intended or used primarily for tourist occupancy. Occupied rooms or suites of rooms in hotels, motels and similar places are classified as housing units only when occupied by permanent residents. Vacant rooms or suites of rooms are classified as housing units only in those hotels, motels, and similar places in which 75 percent or more of the accommodations are occupied by permanent residents. 3/ Most condominium units occupied by or held for nonresidents seem to have been included in the count, at least in 1980, although apparently to a much lesser degree in 1990. Comparison of the two censuses suggests distinct differences in coverage and classification between them.

Annual changes since 1980 in the stock of private housing were estimated from building and demolition permit figures supplied by county building departments, as lagged to reflect the average interval between issuance of permit and completion of construction or razing, and from transfers to or from government ownership. It was assumed that nine months elapsed, on the average, between the authorization and completion dates of a structure with three or more housing units. For one- or two-unit structures and all demolitions, a three-month lag was assumed. Although these lags may be unrealistically short for the large single-family subdivisions and high-rise apartments that have made up a large part of the construction booms of the 1970s and 1980s, lengthening them would have a relatively modest effect on the annual totals for the housing inventory. The annual changes in government housing units were obtained from the agencies in charge of such units and reflected actual rather than assumed completion dates. These data on the reported components of change in the private and public inventory indicated a Statewide net intercensal (1980-1990) increase of 68,409 housing units, compared with an actual growth (as shown by the census) of 55,575. It should further be noted that annual counts of the standing government inventory indicated a 12-month, 1991-1992 net increase of 852 units while data submitted on the components of change added to a net gain of 856 government units.

All 1981-1989 estimates reported here have been revised in the light of the 1990 census. The previously calculated postcensal estimates were adjusted by a formula adapted from one used by the Bureau of the Census in intercensal population estimation and cited at the end of the previous report. 4/

As noted earlier, the annual estimates of homeownership, separately for units on owned and leased land, were taken from real property taxation

statistics on persons claiming taxpayers' home exemption. Although these totals might reasonably be expected to lie close to the decennial housing census statistics on owner occupied units -- the two series, after all, are almost identically defined -- such is surprisingly not the case. In 1990, for example, the real property records indicated a State total of only 167,567 homeowners, just 87.3 percent of the number (191,911) indicated by the decennial census. The latter ratio also varied by counties, from 78.3 percent in Maui County to 89.0 percent on Oahu. Earlier censuses moreover revealed similar discrepancies. These variations are especially surprising in view of the sizable tax savings to be realized by claiming the exemption; any differences, obviously, should be expected to fall in the opposite direction. Although census officials strongly support the accuracy of the census count, the present study uses the tax-based data, partly because of their annual availability and partly because this source, unlike the decennial census, disaggregates owner occupied units on land owned in fee simple from those on leased land.

A second question on data reliability relates to the accuracy of the annual counts of resort condominium units. The series cited in the present report is taken from the Hawaii Visitors Bureau's Visitor Plant Inventory, conducted annually beginning in February. The HVB statistics have regularly provided separate totals for condominium units in rental pools for tourist occupancy, and beginning in 1990 have moreover shown separate figures for "condos" and "hotel/condos." (The pre-1990 data apparently combined the two categories.) Unfortunately, the HVB survey has seemingly varied rather widely from year to year in completeness and accuracy. It is moreover unclear as to how fully these units are represented in the 1980 and 1990 housing censuses and the building permit data used in the postcensal and intercensal housing stock estimates.

Detailed statistics appear in the following tables. Table 1 presents annual estimates of the total housing inventory, 1980-1992, corresponding data from the Honolulu Department of Finance real property records (which provide coverage for each of the four counties) on owner occupied units, and data from government agencies on units in public ownership. Annual intercensal and postcensal estimates of total units by counties appear in table 2. Table 3 contains figures from the Hawaii Visitors Bureau on condominium units in rental pools for transient use, and also on the remainder of the housing stock, by counties. Estimates for 1990, 1991, and 1992, by tenure and control by county, are given in table 4. Table 5 presents building permit statistics by counties, and table 6 contains data on the components of change in the inventory. Government units are tabulated in table 7.

The present estimates were made as part of an annual review of changes in the housing supply in Hawaii, initiated early in 1954 and extended at that time back to 1940. 5/ In the past decade, these estimates have been prepared by the Hawaii State Department of Business, Economic Development & Tourism and its predecessor agencies, primarily from data provided by the armed forces, county building departments, Hawaii Housing Authority, and other federal, state and county agencies. The assistance of these agencies is gratefully acknowledged.

#### Footnotes

- 1/ Housing Finance and Development Corporation, 1991 Annual Report, p. 21.
- 2/ U.S. Bureau of the Census, 1990 Census of Population and Housing,

Summary Population and Housing Characteristics, Hawaii, 1990 CPH-1-13 (August 1992), p. B-14.

3/ Ibid., p. B-15.

4/ The unrevised postcensal estimates appeared in DBED Statistical Report 217, "Housing Unit Estimates for Hawaii, 1980-1990," August 1990. The intercensal estimation formula appeared in U.S. Bureau of the Census, Release CB91-289 (October 1, 1991), App. 1, which is reproduced at the end of Statistical Report 223.

5/ For revised data for earlier years, see the Honolulu Redevelopment Agency, "Intercensal Estimates of Dwelling Units, 1940-1960," Redevelopment and Housing Research, No. 24, July 1964, pp. 23-31, and "Intercensal Estimates of Housing Units, 1960-1970," Redevelopment and Housing Research, No. 31, July 1971, pp. 13-17; DPED Statistical Report 156, "Housing Unit Estimates for Hawaii, 1970-1982," July 28, 1982; and Robert C. Schmitt, Historical Statistics of Hawaii (University Press of Hawaii, 1977), tables 15.5 and 15.7. The most recent report in this series is DBED Statistical Report 223, "Housing Unit Estimates for Hawaii, 1980-1991," January 1992.

Table 1  
TENURE AND CONTROL OF HOUSING UNITS:  
ANNUALLY, 1980 TO 1992

[Data include condominium units occupied or intended for occupancy by nonresidents]

Year	All housing units 1/	Owner occupied units 2/		Renter occupied and vacant units		
		Land owned	Land leased	Private 3/	Federal 1/	State and County 1/
1980	334,235	100,478	36,986	170,963	19,437	6,371
1981	341,764	104,677	37,413	173,644	19,427	6,603
1982	346,726	106,147	37,372	177,325	19,392	6,490
1983	349,996	108,761	35,586	179,831	19,304	6,514
1984	354,484	111,767	35,545	181,034	19,294	6,844
1985	358,581	114,548	35,681	182,050	19,280	7,022
1986	363,416	117,090	35,811	184,343	19,264	6,908
1987	369,425	121,019	35,959	186,109	19,265	7,073
1988	375,434	126,563	33,579	188,851	19,394	7,047
1989	382,052	132,691	30,996	191,657	19,421	7,287
1990	389,810	138,520	29,047	195,601	19,245	7,397
1991	398,325	141,846	26,915	202,266	19,358	7,940
1992	407,606	146,631	24,599	208,226	19,697	8,453

1/ As of April 1.

2/ As indicated by the number of taxpayers claiming home exemptions as of January 1. The number of owner-occupied housing units reported by the U.S. Census of Housing is somewhat higher than the corresponding number based on taxpayer home exemptions.

3/ Calculated as a residual after accounting for the known components, some of which pertain to dates other than April 1, and thus not attributable to any specific date.

Source: Present study.

Table 2  
HOUSING UNITS STANDING, BY COUNTIES: ANNUALLY, 1980 TO 1992

[As of April 1. Data include condominium units occupied or intended for occupancy by nonresidents]

Year	State total	City and County of Honolulu	Other counties			
			Total	Hawaii	Kauai	Maui
1980	334,235	252,038	82,197	34,215	14,828	33,154
1981	341,764	254,815	86,949	36,041	16,021	34,887
1982	346,726	256,689	90,037	37,453	16,476	36,108
1983	349,996	259,149	90,847	38,264	16,044	36,539
1984	354,484	262,337	92,147	39,164	16,318	36,665
1985	358,581	265,412	93,169	40,054	16,428	36,687
1986	363,416	268,551	94,865	41,006	16,556	37,303
1987	369,425	272,134	97,291	42,022	16,690	38,579
1988	375,434	275,520	99,914	43,397	16,871	39,646
1989	382,052	278,191	103,861	45,520	17,173	41,168
1990	389,810	281,683	108,127	48,253	17,613	42,261
1991	398,325	284,835	113,490	50,579	18,649	44,262
1992	407,606	288,805	118,801	53,421	19,439	45,941

Source: Present study.

Table 3  
RESIDENT AND NONRESIDENT HOUSING UNITS, BY COUNTIES: ANNUALLY, 1980 TO 1991

Category and year	State total	City & County of Honolulu	Other counties			
			Total	Hawaii	Kauai	Maui
RESIDENT 1/						
1980	322,598	247,152	75,446	33,594	13,395	28,457
1981	327,570	249,176	78,394	34,782	14,165	29,447
1982	332,326	251,002	81,324	35,969	14,797	30,558
1983	336,583	254,402	82,181	36,495	15,038	30,648
1984	336,882	255,450	81,432	37,262	14,720	29,450
1985	336,777	256,396	80,381	37,775	14,352	28,254
1986	340,417	258,713	81,704	38,954	13,982	28,768
1987	347,529	262,898	84,631	39,920	14,059	30,652
1988	354,314	267,885	86,429	41,043	14,016	31,370
1989	362,912	272,272	90,640	43,502	14,139	32,999
1990	370,631	276,567	94,064	46,138	15,047	32,879
1991	378,257	280,116	98,141	48,178	16,114	33,849

NONRESIDENT 2/

1980	11,637	4,886	6,751	621	1,433	4,697
1981	14,194	5,639	8,555	1,259	1,856	5,440
1982	14,400	5,687	8,713	1,484	1,679	5,550
1983	13,413	4,747	8,666	1,769	1,006	5,891
1984	17,602	6,887	10,715	1,902	1,598	7,215
1985	21,804	9,016	12,788	2,279	2,076	8,433
1986	22,999	9,838	13,161	2,052	2,574	8,535
1987	21,896	9,236	12,660	2,102	2,631	7,927
1988	21,120	7,635	13,485	2,354	2,855	8,276
1989	19,140	5,919	13,221	2,018	3,034	8,169
1990	19,179	5,116	14,063	2,115	2,566	9,382
1991	20,068	4,719	15,349	2,401	2,535	10,413

1/ Estimated as of April 1. Includes all housing units other than condominium units in rental pools and intended for transient occupancy.

2/ Condominium units in rental pools and intended for transient occupancy, based on February survey data from the Hawaii Visitors Bureau.

Source: Present study.

Table 4  
TENURE AND CONTROL OF HOUSING, BY COUNTIES: 1990, 1991, AND 1992  
[Condominium units occupied by nonresidents are included in these estimates]

Year and county	All housing units 1/	Owner occupied units 2/		Renter occupied and vacant units		
		Land owned	Land leased	Private 3/	Federal 1/	State and County 1/
1990						
State total	389,810	138,520	29,047	195,601	19,245	7,397
City & Co. of Honolulu	281,683	96,304	26,498	134,257	19,123	5,501
County of Hawaii	48,253	20,475	1,277	25,310	48	1,143
County of Kauai	17,613	7,705	357	9,161	65	325
County of Maui 4/	42,261	14,036	915	26,873	9	428
1991						
State total	398,325	141,846	26,915	202,266	19,358	7,940
City & Co. of Honolulu	284,835	98,271	24,284	137,162	19,279	5,839
County of Hawaii	50,579	21,101	1,287	27,027	8	1,156
County of Kauai	18,649	8,045	375	9,840	65	324
County of Maui 4/	44,262	14,429	969	28,237	6	621
1992						
State total	407,606	146,631	24,599	208,226	19,697	8,453

City & Co. of Honolulu	288,805	101,036	22,046	139,771	19,618	6,334
County of Hawaii	53,421	22,169	1,167	28,909	8	1,168
County of Kauai	19,439	8,455	387	10,200	65	332
County of Maui 4/	45,941	14,971	999	29,346	6	619

1/ As of April 1.

2/ As of January 1. Based on the number of taxpayers claiming home exemptions, rather than on the census tabulations on tenure.

3/ Calculated as a residual and not attributable to any specific month.

4/ Includes Kalawao County (114 units in 1990 and 1991, 92 units in 1992).

Source: Present study.

Table 5  
PRIVATE RESIDENTIAL CONSTRUCTION AND  
DEMOLITION AUTHORIZED BY PERMITS, BY COUNTIES: 1987 TO 1991

Category & year authorized	State total	City and County of Honolulu	Other counties			
			Total	Hawaii	Kauai	Maui
New 1-family dwellings:						
1987	5,813	2,684	3,129	1,391	543	1,195
1988	6,067	2,001	4,066	1,715	692	1,659
1989	6,846	2,026	4,820	2,782	856	1,182
1990	5,529	1,593	3,936	2,023	845	1,068
1991	4,634	1,202	3,432	2,309	471	652
New duplex units:						
1987	182	124	58	50	6	2
1988	205	172	33	28	5	-
1989	219	124	95	63	12	20
1990	260	136	124	50	14	60
1991	147	48	99	44	12	43
New apartments:						
1987	1,671	785	886	314	-	572
1988	2,802	1,377	1,425	446	21	958
1989	2,618	1,852	766	59	5	702
1990	2,862	1,210	1,652	580	324	748
1991	5,031	3,473	1,558	565	6	987
Units demolished: 1/						
1987	825	741	84	40	2	42
1988	753	629	124	57	9	58
1989	864	690	174	96	4	74
1990	1,073	944	129	54	22	53
1991	875	779	96	39	6	51

1/ Excludes units destroyed by fire, volcanic activity, high winds, and other disasters.

Source: Compiled from County building departments by the Hawaii State Department of Business, Economic Development & Tourism.

Table 6  
COMPONENTS OF CHANGE IN THE HOUSING INVENTORY, BY CONTROL AND COUNTY:  
APRIL 1, 1991 TO MARCH 31, 1992

County and control	New housing units built					
	In 1-unit struc- tures	In 2-unit struc- tures	In multi- unit struc- tures	Housing units con- verted	Housing units demol- ished 1/	Housing units trans- ferred 2/
State total	5,387	167	4,730	+36	1,035	-
City and Co. of Honolulu	1,615	62	3,105	-	786	-
Private 3/	1,202	48	2,342	(NA)	779	+323
Armed forces	-	-	340	-	-	+24
HHA (rental)	-	-	-	-	-	+183
HFDC	412	-	333	-	-	-520
Land & Nat Res	-	-	-	-	7	-
Transportation	-	-	-	-	-	+8
Hon. DHCD	1	14	90	-	-	+1
Unspec. govt. agency	-	-	-	-	-	-19
Hawaii County	2,381	50	572	+15	169	-
Private 3/	2,309	44	572	+15	169	+59
HHA (teachers)	3	6	-	-	-	-
HFDC	69	-	-	-	-	-68
Unspec. govt. agency	-	-	-	-	-	+9
Kauai County	591	12	165	+21	7	-
Private 3/	471	12	165	+21	7	+120
HFDC	120	-	-	-	-	-119
Health	-	-	-	-	-	+1
Kauai Housing Agency	-	-	-	-	-	+2
Unspec. govt. agency	-	-	-	-	-	-4
Maui County	800	43	888	-	73	-
Private 3/	652	43	868	(NA)	51	+169
HFDC	148	-	-	-	-	-147
Health (Kalawao)	-	-	-	22	-	-
Maui Housing Division	-	-	20	-	-	-31
Unspec. govt. agency	-	-	-	-	-	+9

NA Not available.

1/ Number added less number deleted.

2/ Net gain (+) or loss (-) by purchase, sale, donation, or lease. There were some units in interagency transfer in which the receiving agency was not identified.

3/ Based on building permit data, allowing nine months for completion of units in multi-unit structures and three months for all other activity.

Source: Present study.

Table 7  
HOUSING UNITS OWNED BY GOVERNMENT AGENCIES, BY COUNTIES: APRIL 1, 1992

Government unit or type of housing	State total	City and County of Honolulu	Hawaii County	Kalawao County	Kauai County	Maui County
All agencies	28,150	25,952	1,176	92	397	533
Federal government	19,697	19,618	8	-	65	6
Armed forces	19,688	19,612	8	-	62	6
Oahu Consol. Family Hsg. Office	19,324	19,321	3	-	-	-
Coast Guard 1/ Navy	308	291	5	-	6	6
Navy	56	-	-	-	56	-
Civilian agencies	9	6	-	-	3	-
Fish & Wildlife Service	4	1	-	-	3	-
National Weather Service	5	5	-	-	-	-
State government	7,339	5,429	1,108	92	327	383
Education	3	3	-	-	-	-
Hawaii Housing Authority:						
Rental	6,112	4,975	699	-	296	142
Teachers housing	43	-	18	-	-	25
HFDC	853	303	361	-	2	187
Health	140	10	15	92	6	17
Land & Natural Resources	90	48	9	-	22	11
Transportation	9	9	-	-	-	-
University of Hawaii	89	81	6	-	1	1
County government	1,114	905	1/ 60	-	5	144

1/ 1991 data.

Source: Hawaii State Department of Business, Economic Development & Tourism, survey of government agencies.